

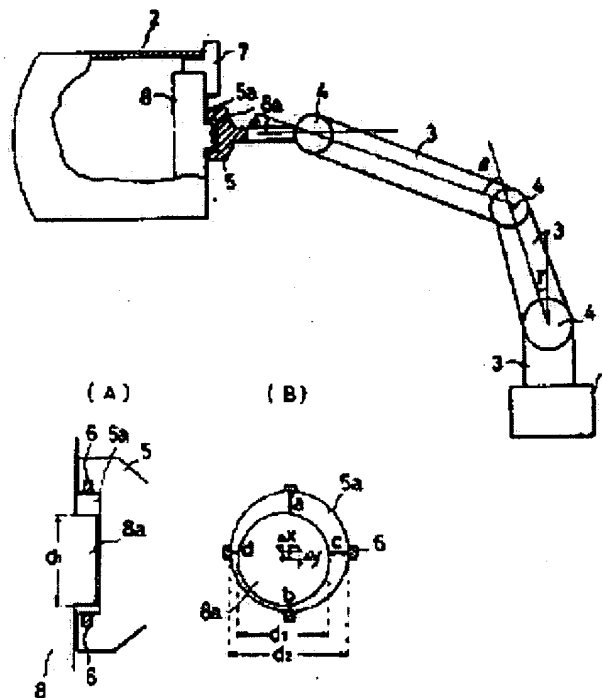
## MEASURING DEVICE FOR POSITION OF ASSEMBLED PIPING

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### Abstract of JP58015108

**PURPOSE:** To improve the accuracy of measuring work and to automate the same in the measurement of positions of assembled pipings by using a probe which is movable to the arbitrary position over the space, a measuring jig for the end face of pipings and a correcting means for the deviation in position from the probe. **CONSTITUTION:** A discoid jig 8 having a part 8a to be fitted consisting of a circular columnar projection is fixed to the end face of a piping 2. A manipulator 1 is fixed to the working floor, and the fitting part 5a of a probe 5 mounted thereto via flexing arms 3 is fitted onto said part 8a. The angles  $\alpha$ ,  $\beta$ ,  $\gamma$  of the flexing arms are detected with angle detectors 4, and from these angles and the length of the flexing arms, the central coordinate in the fitting part is obtained. Despite the mis-alignment in the centers of the fitting part and the part to be fitted, the distances a-d from the distance detectors 6 provided in the inside circumference of the fitting part up to the outside circumferential surface of the part to be fitted are obtained. The rates of deviation  $\Delta X$ ,  $\Delta Y$  of both centers are calculated by using said distances, whereby the information on the position of the leading end of the probe is corrected.



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